

LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES



**OFFICE OF FISHERIES
INLAND FISHERIES SECTION**

**PART VI -A
WATERBODY MANAGEMENT PLAN SERIES**

LACASSINE POOL, CAMERON PARISH

LAKE HISTORY & MANAGEMENT ISSUES

CHRONOLOGY

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TABLE OF CONTENTS

LAKE HISTORY	5
GENERAL INFORMATION.....	5
Parish/Location	5
Impoundment.....	5
Size	5
Watershed	5
Ownership.....	5
Private Organizations.....	6
Boat Ramps	6
Piers	6
State/Federal facilities	6
SHORELINE DEVELOPMENT.....	6
State/National Parks	6
Shoreline Development by Landowners	6
PHYSICAL DESCRIPTION.....	7
Shoreline length.....	7
Timber type	7
Average depth.....	7
Maximum depth.....	7
Natural seasonal water fluctuation.....	7
Events/Problems	7
MANAGEMENT ISSUES	8
AQUATIC VEGETATION.....	8
Biological	8
Chemical.....	9
Type map	9
HISTORY OF FISHING REGULATIONS	10
Recreational	10
Commercial	10
DRAWDOWN HISTORY	10
FISH KILLS / DISEASE HISTORY.....	12
Fish Kills	12
Disease History.....	13
CONTAMINANTS / POLLUTION.....	13
Contaminants/pollution.....	13
Water Quality	13
Water Levels.....	13
SAMPLING.....	13
Historical/Recent Sampling	13
Future Sampling	14
Creel Surveys.....	14
Age & Growth	14
Stocking History	14
Genetic Analysis.....	15
Lake Records	15
SPECIES PROFILE	15
Fish Species Present	15
Threatened/Endangered/Exotic Species.....	17
WATER USE	17
Hunting	17
Fishing	17
Trapping	17
Skiing.....	18
Swimming.....	18
Irrigation	18
REFERENCES	18

APPENDIX I -- MAPS.....	19
APPENDIX II.....	21

LAKE HISTORY

GENERAL INFORMATION

Lacassine Pool is a freshwater marsh impoundment owned and operated by the United States Fish and Wildlife Service (USFWS) in Cameron Parish, LA. It makes up roughly half of Lacassine National Wildlife Refuge (LNWR), a division of the Southwest Louisiana National Wildlife Refuge Complex (the Complex). The Louisiana Department of Wildlife and Fisheries (LDWF), Inland Fisheries Section, cooperates with the USFWS to assist in managing the freshwater fisheries resources on the pool by providing technical fisheries assistance, fish stocking and aquatic weed control. This management plan is written to provide a basic overview of the history of the pool, and to describe the cooperative fish management efforts of LDWF and USFWS. While this plan may be used as a tool to help inform future fisheries management decisions on the refuge, this document is not in any way an official USFWS refuge management plan and its purpose is strictly informational. For full details on LNWR history and the official USFWS management plan, refer to the LNWR Comprehensive Conservation Plan (CCP) at the USFWS website:

<http://www.fws.gov/southeast/planning/CCP/LacassineFinalPg.html>

Parish/Location

Lacassine Pool is located approximately 4.5 miles south of Hayes, LA in Cameron Parish.

Impoundment

Lacassine Pool was originally impounded in 1943 by constructing approximately 30 miles of earthen levee using soils on site. The pool is subdivided into smaller management units (impoundments) to enable smaller scale water level manipulations (see Map – [Appendix I](#)).

Size

16,614 total surface acres.

Watershed

None

Ownership

USFWS

Pool Stage

Full pool is 0.8 NAVD-88

Drawdown (outlet) structure description

There are three exterior and five interior water control structures of stop-log design/operation. The interior structures are used to transfer water from unit to unit, and the exterior structures transfer water in and out of the pool. These structures are all gravity drained; therefore water elevations in the target unit or bayou (outside pool) must be lower than the unit to be dewatered. This also makes drawdown capabilities highly variable depending upon weather, water conditions and location. See Map – [Appendix I](#) for structure locations.

Who controls
USFWS

Lake Authority

Owned and operated by the USFWS under the National Wildlife Refuge Administration Act (16 USC 668dd et seq.) as a migratory bird refuge. LDWF provides recommendations for aquatic plant control and fisheries management.

The full act can be viewed at: http://teeic.anl.gov/lr/dsp_statute.cfm?topic=3&statute=164.

Private Organizations

Friends of the Southwest Louisiana National Wildlife Refuges is a non-profit organization providing volunteer labor and fundraising.

PUBLIC ACCESS

Boat Ramps

There are three public boat ramps on Lacassine Pool. One is located at the northwest end of Tidewater road, and two are located at the south end of Tidewater road. See Appendix I Maps for locations. Motorized boats may only be launched into the pool at the cement ramps at these locations, and motor size is restricted to 40 horsepower or less. The hand launching of canoes/kayaks/non-motorized boats into Unit D is permitted. See the SOUTHWEST LOUISIANA NATIONAL WILDLIFE REFUGE COMPLEX FISHING REGULATIONS at http://www.fws.gov/southeast/pubs/SWLAcomplex_Fish.pdf for complete access restrictions.

Piers

There are no designated fishing piers in Lacassine Pool, however there is shoreline access associated with the boat ramps and at designated parking areas. Additionally, the road/levee system also provides shoreline fishing access to the pool. Some of the roads are closed to vehicle access, however bicycle and foot traffic are allowed. See Appendix I Maps for parking locations.

State/Federal facilities

Lacassine Pool is a federal facility.

SHORELINE DEVELOPMENT

State/National Parks

None

Shoreline Development by Landowners

Not applicable

PHYSICAL DESCRIPTION

Shoreline length

There are approximately 30 miles of levees on Lacassine Pool.

Timber type

Some interior levees have mixtures of Chinese tallow, cypress trees, and wax myrtles. The majority of the levees are kept clear of trees to maintain levee integrity. Very little timber is found in and around the impoundment.

Average depth

2'

Maximum depth

10'

Natural seasonal water fluctuation

~ 2.0'

Events/Problems

1950's to Present—Organic Material Accumulation

The impoundment of the natural marsh to create Lacassine Pool changed the hydrology of this area so that water would be more consistently available for wintering waterfowl. The removal of natural sheet flow of water and dry/flood cycles continues to cause accretion of organic material in the pool. This problem was first identified in the 1950's.

Construction of Unit D

Additional levees and a water control structure were added to the pool in 1987 to form Unit D as an experimental management unit.

Increased Water Levels

In 1993, in an effort to set back succession and mitigate the accumulation of organic material, the refuge began holding an additional 1.0 to 1.5 feet of water inside the pool. This action necessitated raising the levees in some areas. This strategy was not successful because the levee system was not designed to hold water at that elevation. The pool is now held at target elevation (0.8 NAVD-88) under normal conditions.

Drought 1999-2000

Drought conditions during this time period led to an almost complete dewatering of the entire pool (see FISH KILLS/DISEASE HISTORY). Additionally, the opportunity to burn off accumulated organic matter during this natural dry period was not utilized, so an associated habitat improvement was not achieved.

On Site Tournament Fishing

In the early 2000's, due to the commercial interest (revenue generation) of onsite weigh-ins for bass tournaments, refuge staff began allowing such tournaments by permit only. Individuals wishing to sponsor fishing tournaments on Lacassine refuge should contact the

refuge manager for special permits/restrictions.

Giant salvinia

Giant salvinia was first observed in Lacassine Pool in 2008. The occurrence was the first documented discovery of giant salvinia in publicly accessible waters in LDWF District 5. The LDWF initiated aggressive spray applications in conjunction with a USFWS drawdown in the infected unit while infestations were small in an effort to prevent the spread of this invasive species. Initial treatments were successful; however outbreaks became more common in the more remote areas of the pool following the installation and operation of new water control structures in 2012, which increased and stabilized water levels.

Subdividing of Pool

In 2009, Lacassine Pool was subdivided to facilitate more active water management, leaving as many areas open to the public as possible when drawdowns occur. The additional levees and water control structures enable refuge managers to more easily and efficiently dewater the impoundments.

Drought 2010-2011

Drought conditions occurred again in fall of 2010 through winter of 2011. Water levels reached two feet below pool stage during the drought. Water levels did not reach the same low elevations as in the previous drought (except in targeted unit G1). Refuge staff took advantage of the dry conditions to further dewater unit G1 for planned drying and burning. A significant rainfall event prior to the scheduled burn temporarily raised water levels in the unit and reduced the potential effectiveness of this burn.

Hurricanes:

Lacassine Pool is located in a coastal parish and is susceptible to hurricane related fish kills. See FISH KILLS/DISEASE HISTORY section below for details on hurricane related fish kills.

MANAGEMENT ISSUES

AQUATIC VEGETATION

Lacassine Pool was designed to promote aquatic vegetation habitat and is managed to provide plant species beneficial to waterfowl. The current USFWS management objective is to maintain a 50:50 open water to short vegetation ratio (USFWS 2007). Vegetation complaints from the public are minimal because of these factors. Non-native, less beneficial aquatic vegetation such as alligator weed, water hyacinth and both *Salvinia* species, block fishing access and impact the refuge mission. Herbicide applications to emergent and floating aquatic species in Lacassine Pool are conducted through cooperative efforts between LDWF and USFWS as articulated in the 2012 memorandum of agreement (MOA, [Appendix II](#)). The USFWS also makes applications using refuge staff and/or contractors.

Biological

In the fall of 2012, Lacassine refuge staff utilized the LDWF/LSU AgCenter weevil program

to stock giant salvinia weevils in areas of the refuge both inside and outside of the pool. Forty (40) plastic totes containing weevil-infested giant salvinia were stocked at that time. Weevil abundance estimates were 400 adults per tote.

Chemical

Historically, water hyacinth and alligator weed were treated with 2,4-D (0.5 gal/acre), and common salvinia was treated with glyphosate (0.75 gal/acre) or diquat (0.75 gal/acre). Currently, water hyacinth is still treated with 2,4-D (0.5 gal/acre) while salvinia spp. are treated with a mixture of glyphosate (.75 gal/acre) and diquat (0.25 gal/acre) with Turbulence (0.25 gal/acre) surfactant. Alligator weed is treated with imazapyr at 0.5 gal/acre with Turbulence (0.25 gal/acre) surfactant.

From 2007 through 2011, the refuge purchased herbicides and LDWF provided manpower, equipment, and surfactant. Beginning in 2012, under the established MOA, the USFWS provides herbicide and surfactant and the LDWF continues to provide manpower and equipment. Additional herbicides are occasionally provided by the state when funding prevents the refuge from purchasing the necessary chemicals.

Table 1. LDWF historical herbicide treatment measures on Lacassine Pool, LA from 2006-2013.

Year	Number of Treatments*	Acres Treated	Primary Vegetation Species Treated
2006	3	38	Water Hyacinth, Alligator weed
2007	13	101	Water Hyacinth, Alligator weed, Common Salvinia, Pennywort
2008	3	36	Water Hyacinth, Alligator weed, Common Salvinia
2009	40	684	Alligator weed, Giant Salvinia, Pennywort, Water Hyacinth, Common Salvinia
2010	5	66	Alligator weed, Common Salvinia, Primrose, Knotweed
2011	6	122	Giant Salvinia, Common Salvinia
2012	4	118	Giant Salvinia, Water Hyacinth, Alligator weed
2013	9	139	Giant Salvinia, Common Salvinia
2014	10	237	Giant Salvinia
2015	5	128	Alligator weed, Giant Salvinia, Water Hyacinth

Physical

In 2008, the pool unit on Lacassine where giant salvinia was discovered (G3) was drawn down to help eliminate the plant in the marsh and limit it to the surrounding canals. The drawdown was initiated in June. Water level was lowered approximately two feet in the pool by September. At that time, the structure was closed to prevent Lacassine Bayou from flowing into the pool. This water level manipulation, combined with chemical treatment in the remaining water, was effective to reduce salvinia coverage.

Type map

There is no type map available for Lacassine Pool.

HISTORY OF FISHING REGULATIONS

Recreational

Only fishing with rod and reel or pole and line is permitted in refuge waters. The use or possession of any other type of fishing gear including trotlines and jug-lines is prohibited in the pool. Lacassine Pool is usually open to fishing from March 15th to October 15th annually; however, season dates have been modified in the past (Table 2).

Table 2. Lacassine Pool, LA fishing regulation history.

Year	Season Dates	Regulations in Effect
1943-1990	3/15 to 10/15	Statewide regulations all species; largemouth bass - 15 daily, no MLL
1991-1999	3/15 to 10/15	Statewide regulations all species; largemouth bass - 10 daily, no MLL
2000	3/15 to 10/15	Statewide regulations all species; largemouth bass - 10 daily, no MLL. Bank fishing only.
2001	5/7 to 10/15	Catch and Release only; all species
2002	4/29 to 10/15	Catch and Release only; all species
2003	5/28 to 10/15	Catch and Release largemouth bass only; statewide regulations- all other species
2004	4/26 to 10/15	Largemouth bass - 5 daily, 14" MLL; statewide regulations, all other species
2005-2016	3/15 to 10/15	Statewide regulations all species; largemouth bass - 10 daily, no MLL

Statewide regulations may be viewed at:

<http://www.wlf.louisiana.gov/fishing/regulations>

Other gear and access restrictions are in effect on Lacassine Pool. Refuge specific fishing regulations may be viewed at:

http://www.fws.gov/southeast/pubs/SWLAcomplex_Fish.pdf

Commercial

No commercial fishing is allowed inside Lacassine Pool.

DRAWDOWN HISTORY

Water fluctuation occurs naturally in Lacassine Pool on a seasonal basis. With no watershed, the pool is dependent upon rainfall to maintain water levels. These types of natural fluctuations occur regularly and are not considered drawdowns for purposes of this document. Intentional water level reductions initiated by refuge staff are considered drawdowns, and are detailed in Table 3. No planned drawdowns were conducted on Lacassine Pool prior to 1990.

Table 3. Lacassine Pool, LA drawdown descriptions from 1990-2016.

Drawdown Unit/Date	G1/June 2011—November 2011
Purpose	Use existing low water (drought) conditions to assist in dewatering. Dry, compact, and burn accumulated organic material.
Success	Excellent drying, however burn success was limited by significant rainfall immediately prior to scheduled burn effort.
Fishing Closure	No
Depth Below Pool	3'-4'
Estimated % Exposed	~95%
Who Operated Structure	USFWS
Any Fish Kills	None reported
Drawdown Unit/Date	G3/June 2008-September 2009
Purpose	Giant salvinia control
Success	Excellent
Fishing Closure	Boat--yes; Bank--no
Depth Below Pool	2'
Estimated % Exposed	~85%
Who Operated Structure	USFWS
Any Fish Kills	None reported
Drawdown Unit/Date	D/ March 1990-January 1993 (continuous)
Purpose	Habitat management experiment with four prescribed burns conducted during the drawdown.
Success	Excellent
Fishing Closure	No
Depth Below Pool	4'
Estimated % Exposed	100%
Who Operated Structure	USFWS
Any Fish Kills	None reported

FISH KILLS / DISEASE HISTORY

Fish Kills

2000

Drought conditions throughout southwest Louisiana from 1999-2000 led to an almost complete dewatering of the pool. All species were heavily impacted by this event. Due to gradual reductions in water levels, no fish kills were directly documented as die-offs were not sudden or en masse. The significant reduction in aquatic habitat combined with very little deep water refugia for fish, led to the reduction in overall fisheries populations. This reduction was caused primarily through natural predation accompanied by two years of reduced recruitment.

2005

In September 2005, Hurricane Rita made landfall in Cameron Parish. The storm surge overtopped impoundment levees at numerous points on the southern end of the pool. The freshwater marsh was inundated with saltwater, killing the plants and resulting in anoxic conditions in parts of the pool. Damage to the marsh was not uniform, so resulting low oxygen conditions varied widely across the pool and over time (Figure 1). The storm surge also resulted in fish kills with varying levels of severity. LDWF sampling (gill nets) and a special volunteer fishing effort organized by the USFWS in February 2006 resulted in multiple size classes of LMB captured, indicating the centrarchid populations in the pool were not impacted as heavily as other local waterbodies (Lacassine Bayou, Mermentau River, Calcasieu River).

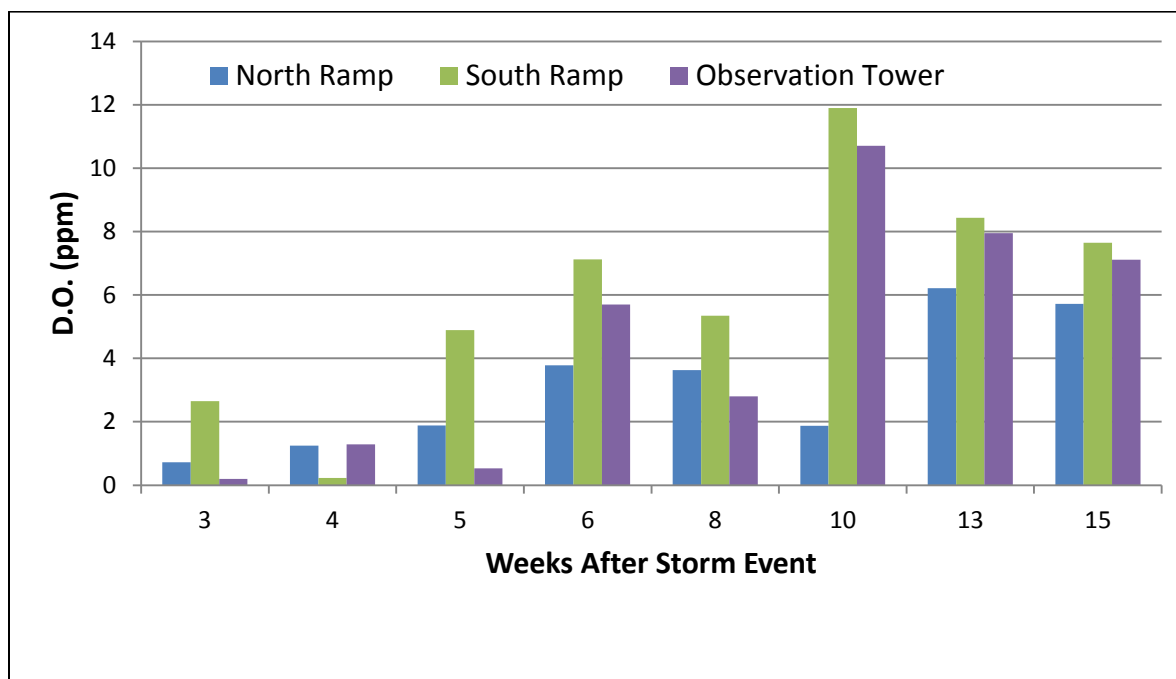


Figure 1. Dissolved oxygen readings recorded at multiple stations on Lacassine Pool from 3 to 15 weeks after Hurricane Rita in 2005.

2011

Drought conditions throughout southwest Louisiana from fall of 2010 to winter 2011 led to a significant reduction of water levels in the pool. This drought and its effects were not as long lasting and significant as the '99-'00 drought. No directly related fish kills were documented. However, low recruitment in 2011 negatively affected fisheries. The 2013 standardized sampling results indicated a rapid recovery of the LMB population.

Disease History

In 2004, 77 largemouth bass were sampled for the presence of largemouth bass virus (LMBV) by LDWF and USFWS staff. Two fish (2.6%) tested positive for the virus. Additional sampling and testing of other centrarchid species (black crappie, bluegill, warmouth, and redear) for LMBV and other pathogens was negative. No disease related fish kills have been documented in Lacassine Pool.

CONTAMINANTS / POLLUTION

Contaminants/pollution

The USFWS conducted a contaminant study in fish on LNWR in 1985. Results indicated that the refuge is not being impacted by organochlorine or metal contamination (see MP-C for full report).

Water Quality

No water quality sampling is conducted by the Louisiana Department of Environmental Quality (LDEQ). Basic parameters (temperature, dissolved oxygen, pH, salinity, and conductivity) are collected in conjunction with LDWF standardized sampling activities.

Water Levels

Normal annual water fluctuations range from 1.0' below pool to 1.0' above pool (-0.2 to 1.8 NAVD 88).

SAMPLING

Historical/Recent Sampling

Lacassine Pool is primarily sampled by LDWF with daytime electrofishing once a year, usually in January or February to facilitate access. Gill nets (2.5" and 3.0" bar mesh) were utilized at two stations in 2006.

Table 4. Historical LDWF standardized sport fish and community assemblage samples taken by year on Lacassine Pool, LA from 1995-2015.

Year	Electrofishing Stations - Sportfish	Electrofishing Stations – Community Assemblage
1995	4	1
1997	2	0
1999	3	1

2002	7	1
2003	3	0
2004	5	1
2005	4	0
2007	2	0
2008	4	0
2009	5	1
2010	5	1
2011	4	1
2012	7	4
2013	4	2
2014	6	3
2015	4	2

Future Sampling

Table 5. Scheduled sampling on Lacassine Pool, LA.

2016	Electrofishing—6 sportfish/3 community assemblage Water Quality
2017	Electrofishing—6 sportfish/3 community assemblage Water Quality Largemouth Bass Population Assessment
2018	Electrofishing—6 sportfish/3 community assemblage Water Quality Largemouth Bass Population Assessment Creel Survey
2019	Electrofishing—6 sportfish/3 community assemblage Water Quality Largemouth Bass Population Assessment

Creel Surveys

LDWF has conducted standardized recreational angler surveys on Lacassine Pool in 1990, 2004, 2008, and 2011. The 2011 creel survey estimated a total of 3,566 bass anglers caught 14,567 largemouth bass, of which 6,044 (41.5%) were harvested and 8,523 (58.5%) were released.

Age & Growth

Largemouth bass otoliths were collected during standardized sampling in 1997, 2003, 2004, 2008, and 2009.

Stocking History

Table 6. The combined LDWF and USFWS fish stockings in Lacassine Pool, LA 1985-2015.

Year	FLMB	Bluegill	Lepomis spp.	Channel Catfish	Golden Shiner
1985	57,000				
1986			100,000	80,500	

1988				66,600	
1995	23,200				
1999	93,024				
2000	50,000		326,400		
2001	51,660		180,000	20,000	
2002	100,112	77,153			40,755
2003	199,978	342,229			39,995
2004	101,216	224,511			
2005	101,324				
2012	51,232				
2013	63,040				
2014	140,379				
2015	140,044				
TOTAL	1,172,209	643,893	606,400	167,100	80,750

Genetic Analysis

Largemouth bass tissue samples are collected periodically in conjunction with standardized age and growth samples to determine genetic strain of largemouth bass (Table 7). Electrophoresis of liver tissues is conducted at the Louisiana State University School of Renewable Natural Resources genetics laboratory.

Table 7. Genetic analysis for largemouth bass sampled in Lacassine Pool, LA 2003-2009.

Year	Number	Northern	Florida	Hybrid	Florida Influence
2003	32	16%	42%	42%	84%
2004	54	19%	31%	50%	81%
2008	212	44%	17%	39%	56%
2009	112	48%	21%	31%	52%

Lake Records

No official records are kept for the pool. The largest bass captured by anglers and brought to LDWF for verification was 12.7 pounds in 2009.

SPECIES PROFILE

Fish Species Present

Table 8. Family, common name and scientific name of fishes collected or known to occur in Lacassine Pool, LA.

Lepisosteidae	
Alligator Gar	<i>Atractosteus spatula</i>
Spotted Gar	<i>Lepisosteus oculatus</i>
Longnose Gar	<i>Lepisosteus osseus</i>
Shortnose Gar	<i>Lepisosteus platostomus</i>

Amiidae	
Bowfin	<i>Amia calva</i>
Anguillidae	
American Eel	<i>Anguilla rostrata</i>
Clupeidae	
Gizzard Shad	<i>Dorosoma cepedianum</i>
Threadfin Shad	<i>Dorosoma petenense</i>
Cyprinidae	
Common Carp	<i>Cyprinus carpio</i>
Golden Shiner	<i>Notemigonus crysoleucas</i>
Catostomidae	
Smallmouth Buffalo	<i>Ictiobus bubalus</i>
Lake Chubsucker	<i>Erimyzon sucetta</i>
Ictaluridae	
Black Bullhead	<i>Ameiurus melas</i>
Yellow Bullhead	<i>Ameiurus natalis</i>
Blue Catfish	<i>Ictalurus furcatus</i>
Channel Catfish	<i>Ictalurus punctatus</i>
Esocidae	
Grass Pickerel	<i>Esox americanus</i>
Chain Pickerel	<i>Esox niger</i>
Aphredoderidae	
Pirate Perch	<i>Aphredoderus sayanus</i>
Atherinidae	
Brook Silverside	<i>Labidesthes sicculus</i>
Inland Silverside	<i>Menidia beryllina</i>
Cyprinodontidae	
Sheepshead Minnow	<i>Cyprinodon variegatus</i>
Fundulidae	
Golden Topminnow	<i>Fundulus chrysotus</i>
Rainwater Killifish	<i>Lucania parva</i>
Poeciliidae	
Western Mosquitofish	<i>Gambusia affinis</i>
Least Killifish	<i>Heterandria formosa</i>
Sailfin Molly	<i>Poecilia latipinna</i>
Moronidae	
Yellow Bass	<i>Morone mississippiensis</i>
Centrarchidae	
White Crappie	<i>Pomoxis annularis</i>
Black Crappie	<i>Pomoxis nigromaculatus</i>
Flier	<i>Centrarchus macropterus</i>
Green Sunfish	<i>Lepomis cyanellus</i>

Warmouth	<i>Lepomis gulosus</i>
Orangespotted Sunfish	<i>Lepomis humilis</i>
Bluegill	<i>Lepomis macrochirus</i>
Longear Sunfish	<i>Lepomis megalotis</i>
Redspotted Sunfish	<i>Lepomis miniatus</i>
Redear Sunfish	<i>Lepomis microlophus</i>
Bantam Sunfish	<i>Lepomis symmetricus</i>
Largemouth Bass	<i>Micropterus salmoides</i>
Sciaenidae	
Freshwater Drum	<i>Aplodinotus grunniens</i>
Red Drum	<i>Sciaenops ocellatus</i>
Elassomatidae	
Banded Pygmy Sunfish	<i>Elassoma zonatum</i>
Mugilidae	
Striped Mullet	<i>Mugil cephalus</i>
Achiridae	
Hogchoker	<i>Trinectes maculatus</i>

Threatened/Endangered/Exotic Species

No threatened or endangered fish species are found in Lacassine Pool.

Common carp, *Cyprinus carpio* are the only known exotic fish species present in Lacassine Pool.

WATER USE

Hunting

Archery only deer hunting is permitted beginning October 1st and ending the Friday before the LA West Zone waterfowl season. No other type of hunting is allowed in Lacassine Pool. See the SOUTHWEST LOUISIANA NATIONAL WILDLIFE REFUGE COMPLEX HUNTING REGULATIONS at: http://www.fws.gov/southeast/pubs/SWLcomplex_hunt.pdf for further restrictions and information.

Fishing

Fishing has been the most popular recreational activity since the refuge was established. LDWF creel surveys have estimated an average of 7,220 anglers have utilized the pool annually since 2004.

Trapping

Trapping for American alligators (*Alligator mississippiensis*) is the only trapping activity allowed on Lacassine Pool. Trapping is by special permit only and permits are awarded by lottery. Applications are accepted February 15 through March 15. Contact LNWR headquarters at 337/774-5923 for further information.

Skiing

Skiing and watersports are prohibited on Lacassine Pool.

Swimming

Swimming is prohibited on Lacassine Pool.

Irrigation

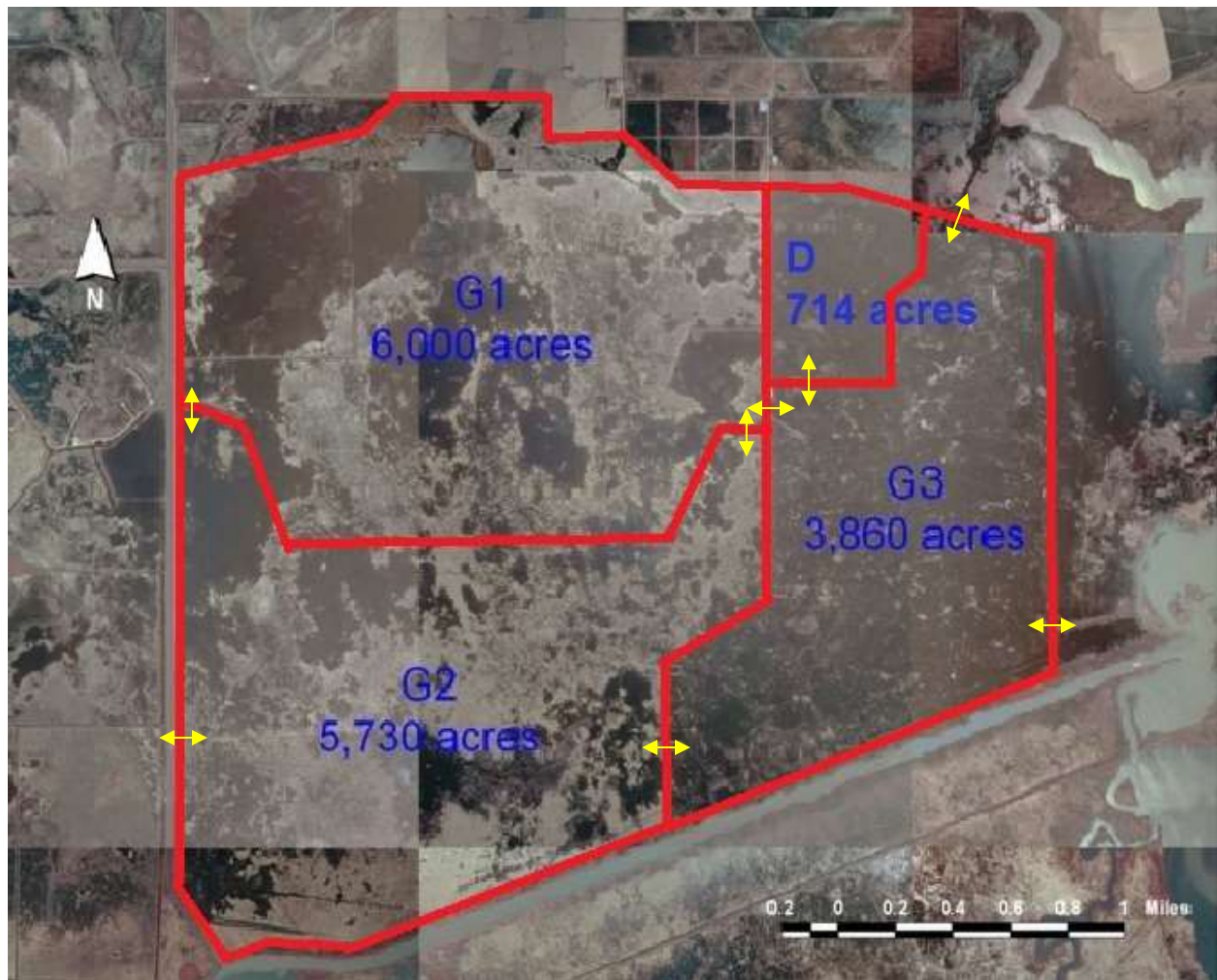
Lacassine Pool is not used for irrigation.


REFERENCES

United States Fish and Wildlife Service. 2007. Lacassine National Wildlife Refuge
Comprehensive Conservation Plan. Southeastern Region, USFWS, Atlanta, GA.

APPENDIX I -- MAPS

[\(return to document\)](#)



Water Control Structure: 

Levee: 

Map of Lacassine Pool with impoundment levees, management units, and water control structures delineated.

Lacassine National Wildlife Refuge



Map of Lacassine National Wildlife Refuge (including Lacassine Pool) courtesy of the USFWS.

APPENDIX II
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40181CK024
MEMORANDUM OF AGREEMENT
UNITED STATES DEPARTMENT OF THE INTERIOR,
FISH AND WILDLIFE SERVICE
And
THE LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES

I. PARTICIPANTS

THIS MEMORANDUM OF AGREEMENT (MOA) is entered into by and between the UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE (USFWS), acting through, the Project Leader of the Southwest Louisiana National Wildlife Refuge Complex which includes Cameron Prairie, Lacassine, Sabine and Shell Keys National Wildlife Refuges (Complex), and the Louisiana Department of Wildlife and Fisheries (LDWF) acting through the Louisiana Department of Wildlife and Fisheries Section Biologist Manager for Southwest Louisiana, collectively the (Parties).

II. RECITALS/ BACKGROUND

The USFWS has established the Complex to protect, restore, enhance, and manage a representative portion of freshwater and associated southwest Louisiana habitats for the benefit of wintering waterfowl, other migratory birds, threatened and endangered species, and provide for the public to participate in wildlife dependent recreation such as fishing. The USFWS has developed a habitat management program that includes controlling aquatic noxious and invasive plants. Aquatic invasive plant control efforts are recognized as an important management tool to protect the purposes for which the refuges within the Complex were established.

The Louisiana Department of Wildlife and Fisheries has responsibilities similar to the USFWS on state and private lands throughout southwest Louisiana. The LDWF also has a very active aquatic noxious and invasive plant control program within the Office of Fisheries.

It is to the benefit of both Parties to work together to fulfill their common missions, reduce operational costs, share resources and take advantage of each participant's technical expertise to address aquatic noxious and invasive plant control and fisheries management.

Therefore the Parties of this agreement will work together cooperatively to fulfill their habitat management mission in Southwest Louisiana as follows:

III. PURPOSE

The purpose of this agreement is to clearly articulate how the USFWS and the LDWF will work together to protect natural resources and enhance fishing opportunities through sport fish management and the control of aquatic invasive plants in accordance with their respective policies and authorities in Southwest Louisiana.

By signing this agreement the USFWS agrees to allow public fishing on its waters where feasible in accordance with each refuge's respective Comprehensive Conservation Plan and federal law. In exchange, LDWF agrees to provide a defined level of aquatic plant control (reference XI) on the Complex and to conduct fisheries sampling in an effort to provide technical assistance in fisheries management.

IV. AUTHORITY

- A. Migratory Bird Conservation Act, 16 U.S.C. §715(j).
- B. National Wildlife Refuge System Administration Act of 1966, 16 U.S.C. §668(dd)-(ee)
- C. Endangered Species Act of 1973, 16 U.S.C. §§1531-1544
- D. The Fish and Wildlife Coordination Act, 16 U.S.C. §§661-667(e)

V. PERIOD OF PERFORMANCE

The period of performance of the Memorandum of Agreement is from the effective date of signature by all parties, through a scheduled completion date to be determined during each application. The parties agree to review this document a minimum of every 5 years to make sure all information is current.

VI. FUNDING INFORMATION

The USFWS will not provide any funds to the LDWF to fulfill the terms of this agreement nor will LDWF receive any funds from USFWS.

VII. PROJECT MANAGER/OFFICER FOR EACH PARTY

USFWS:	LDWF:
Donald J Voros	Eric B Shanks
Project Leader SWLA NWRC	Biologist Manager
1428 Hwy 27	Inland Fisheries Section
Bell City LA 70630	1213 North Lakeshore Drive
337-598-2216	Lake Charles LA 70601
don_voros@fws.gov	337-491-2577
	eshanks@wlf.la.gov

VIII. REPORTING REQUIREMENTS

The parties agree to meet at least once a year to review the agreement and make any needed modifications. At minimum an Annual summary report (reference XI) shall be provided by November 15.

IX. MODIFICATIONS

Modifications to this Agreement shall be made in writing with the mutual consent of LDWF and USFWS.

X. TERMINATION OF AGREEMENT

This agreement may be terminated by either party by delivering a written notice to the other party not less than 60 days prior to the termination date. Upon termination USFWS and LDWF shall cooperate to fulfill any outstanding obligations.

98 **XI. PROVISIONS**
99
100 **The USFWS Agrees to:**
101
102 Provide public access to the Complex for wildlife dependant recreation in accordance with the
103 Comprehensive Conservation Plan and federal law.
104
105 Provide herbicides and surfactants to be applied by LDWF to infested areas of the Complex.
106
107 Submit herbicide application requests, when necessary, to LDWF at least 7 days prior to the requested
108 date of application on the specified water.
109
110 Provide technical expertise to LDWF in regards to herbicide applications, research, or investigations on
111 Complex water bodies.
112
113 Provide reasonable assistance, necessary equipment, storage space and personnel in extenuating
114 circumstances to help fulfill the treatment mission.
115
116 Support LDWF's initiatives associated with this MOA and publicly recognize them for their cooperative
117 efforts.
118
119 Permit and assist LDWF in stocking largemouth bass in Lacassine Pool as the Parties determine is
120 appropriate and in accordance with the Parties fish stocking procedures. Other species and
121 locations within the Complex may be stocked at the agreement of the Parties for recovery efforts,
122 outreach events, and/or general sport-fish enhancement.
123
124 Hold LDWF harmless for damages that may occur to off-target vegetation as a result of spraying
125 applications on the Complex when such applications were performed in accordance with approved
126 application techniques.
127
128 **The LDWF Agrees to:**
129
130 Provide personnel and equipment for a minimum of 40 crew hours to treat the Complex with herbicides
131 provided by the USFWS.
132
133 Make reasonable efforts to conduct applications on or before requested application date, and provide
134 notice to the Complex manager at least 7 days prior to applications initiated by LDWF.
135
136 Make reasonable efforts to prevent off-target damages to the vegetation on the Complex. However,
137 minor damages such as yellowing of non-targeted plants may occur.
138
139 Provide daily report logs to Complex personnel after each application by means of USFWS Pesticide
140 Usage Reporting Form.
141
142 Sample within the Complex to aid in the management of the fisheries resources within the Complex in
143 accordance with each station's approved Comprehensive Conservation Plan or Step-down Management
144 plans, and U S Fish and Wildlife Service Policies.
145
146 Stock Lacassine Pool as the Parties determine is appropriate and in accordance with the Parties
147 fish stocking procedures. Other species and locations within the Complex may be stocked at the

agreement of the Parties for recovery efforts, outreach events, and/or general sport-fish enhancement.. LDWF shall submit a request to stock the Complex to the Complex manager at least 7 days prior to submitting internal stocking requests..

XII. Other Terms and Conditions:

1. It is agreed by the parties hereto that, in the performance of this MOA, employees or agents of the LDWF are not to be considered employees of the USFWS.
2. It is hereby understood and agreed by the Parties hereto that the USFWS shall not be bound to make any expenditures under the terms of this MOU, except as funds are available by appropriation of the Congress of the United States.
3. The participation of the USFWS and LDWF in activities conducted pursuant to this MOA is not intended to place either party or its representatives in a position of incurring tort liability arising from an action of the other party. Each party is responsible for any injury or property damage to third parties caused by negligence of its own employees acting within the scope of their employment/official duty subject to such limitation as may be prescribed by applicable laws. Specifically, tort liability arising from negligent or wrongful acts or omissions of USFWS employees acting within the scope of employment shall be adjudicated pursuant to the Federal Tort Claims Act (28 USC 2671 – 2689). Likewise, tort liability arising from negligent or wrongful acts or omissions of LDWF employees while acting within the scope of official duty shall be governed by the provisions of La. Civ. Code art. 2315 et seq. No member or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this MOA, or to any benefit that may arise therefrom.
4. Employee injury or death arising from activities conducted in fulfillment of this memorandum and within the scope of employment/official duty of the respective party shall be exclusively considered as a workers' compensation matter respective of the involved party as substantiated by the employer/employee relationship. USFWS employees are afforded workers' compensation coverage via provisions of the Federal Employee's Compensation Act (FECA – 5 USC 8101), whereas, LDWF employees are afforded coverage via provisions of Louisiana Law. Both the USFWS and the LDWF will ensure that its employees have the proper training and certification required to conduct activities under this MOA.
5. During the performance of this MOA, the parties hereto agree to abide by the terms of Executive Order 11246 on nondiscrimination and will not discriminate against any person because of race, color, religion, sex, or national origin.

188 IN WITNESS WHEREOF, the parties have caused this MOA to be executed by an authorized official on
189 the date and year set forth below their signature.

U S Fish and Wildlife Service

 7/20/2012
Project Leader, Southwest Louisiana
National Wildlife Refuge Complex

Louisiana Department of Wildlife and
Fisheries

 P. 9. 12
Randy Pausina, Assistant Secretary
Office of Fisheries


Robert J. Bacham, Secretary

190